

ARTHRAOXON (POACEAE: ANDROPOGONEAE)  
NEW TO SOUTH AMERICA

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ABSTRACT

*Arthraxon hispidus*, native to the Old World and adventive in Hawaii, North America, Central America, and the Caribbean, is reported for the first time from South America. The records are from the Andes of Venezuela. Information also is provided on the earliest dates that this species is documented to have appeared in different countries in the New World.

RESUMEN

*Arthraxon hispidus*, nativa del viejo mundo y adventicia en Hawaii, Norte América, Centro América y el Caribe, se cita por primera vez en Sur América. Los registros son de los Andes de Venezuela. Además se suministra información adicional documentada sobre las fechas más remotas de aparición de esta especie en diferentes países del nuevo mundo.

One of us (SMN) recently collected *Arthraxon hispidus* (Thunb.) Makino var. *hispidus* in Guaramacal National Park in the Andes of Venezuela and a search for additional material revealed that at least two other collections were made nearby in 1986 and 1990 (see voucher specimens). These are the first collections of the genus *Arthraxon* P. Beauv. (Poaceae: Andropogoneae) from South America. The species, *A. hispidus*, which is native to Asia, Africa, and Australia, was previously known to be adventive in Hawaii, North America, Central America, and the Caribbean (van Welzen 1981). *Arthraxon hispidus* thus is now known to occur on all continents except Europe and Antarctica.

The earliest record we can find of *Arthraxon hispidus* in the New World is a collection made in the Japanese Garden on the Centennial Grounds of Fairmount Park, Philadelphia in 1877 (*Burk s.n.*, US). The species next was found on ship's ballast in Philadelphia in 1878 (*Scribner s.n.*, US) and on ballast in Portland, Oregon about 1901 (*Suksdorf 5316*, US). The label data on a 1903 collection from South Carolina stated that the plant was introduced at Clemson College with seed from Japan (*Newman s.n.*, US) and there is a specimen indicating that *A. hispidus* was cultivated by the U.S.D.A. at Arlington Experimental Farm in Virginia by 1906 (*Tidestrom s.n.*, US). These herbarium records support the inference that there were multiple introductions of this species into the United States. Irrespective of the source or sources of these introductions, additional specimens

in the United States National Herbarium (US) indicate that *A. hispidus* was fairly widely but locally established in North America by the 1920s. When Kiger (1971) evaluated the status of this species in the United States he noted that while the distribution of the species showed only a slight change in the previous 20 years, *A. hispidus* was becoming more firmly established within that range. Subsequent reports (Newbold 1979; Cusick 1986; Brown & Schultz 1991; USDA, NRCS, 2001) reveal that *A. hispidus* is spreading further west and north in the United States and merits concern as an invasive weed.

In tropical America, *Arthraxon hispidus* first appeared in the Caribbean. The earliest collection we can locate was made in Guadeloupe in 1892 (*Duss 2712*, US). The species then was found in Jamaica in 1903 (*Underwood 1195*, NY). A century later it does not seem to have spread to any other island in the Caribbean (Nash 1912; Hitchcock 1936; Adams 1972; Fournet 1978; Gould 1979; all records cited as either the synonym *A. quartinianus* (A. Rich.) Nash or *A. hispidus* var. *quartinianus* (A. Rich.) Roberty). In Central America the first record of *A. hispidus* is a collection (*Weatherwax 171*, US) made in Guatemala in 1932. In 1945 the species was first collected in Mexico, in adjacent Chiapas state (*Hernandez Xolocotzi X-412*, US). *Arthraxon hispidus* was subsequently first recorded in El Salvador by 1960 (Weberling & Lagos cited in Berendsohn & Araniva de González, 1991). In the 1960s it also first appeared in Honduras (*Molina R. 18516*, US), Costa Rica (*Pohl & Davidse 11257*, US), and Nicaragua (*Molina R. 22890*, NY). By 1980, the range of *A. hispidus* had expanded northward in Mexico to include at least one locality in the state of Michoacán (Cervajal Hernández, 1980; cited as *A. quartinianus*) and more recently one in the state of Colima (*Sanders et al. 10373*, MO).

Another species of *Arthraxon*, *A. castratus* (Griff.) V. Naray. ex Bor, was collected in Puerto Rico in 1981 (Hatch 1982). This species appears to be less aggressive than *A. hispidus*, not otherwise being known outside its native range in Asia. Both van Welzen (1981) and Hatch (1982) provided keys that can be used to distinguish the two species of *Arthraxon* that occur as adventives in the New World.

Voucher specimens. **UNITED STATES. Oregon. Multnomah Co.:** raised from young plants collected on ballast at Portland, 22 Jan 1901, *W.N. Suksdorf 5316* (US). **Pennsylvania. Philadelphia Co.:** Japanese Garden, at Centennial Grounds, Phil<sup>a</sup>, 1877, *I. Burk s.n.* (US); On ship's ballast, Philadelphia, 1878, *F.L. Scribner s.n.* (US). **South Carolina. Pickens Co.:** Clemson College, introduced with seed from Japan, Oct 1903, *C.L. Newman s.n.* (US). **Virginia. Arlington Co.:** cult. Arlington farm, Aug 1906, *I. Tidestrom s.n.* (US). **MEXICO. Chiapas:** from Finca Liquidambar to El Triunfo, ca. 1100–1850 m, 9 Nov 1945, *E. Hernández Xolocotzi X-412* (US). **Colima:** Comala, Rancho El Jabali, 22 km (airline) NNW of Colima (19°26'54"N, 103°41'42"W), 1300 m, 7 Jan 1991, *A.C. Sanders et al. 10373* (MO). **GUATEMALA. Quezaltenango:** along rr. in mountains near Santa María, 25 Mar 1932, *P. Weatherwax 171* (US). **HONDURAS. Morazán:** between El Edén and El Rancho, mountain Canta Gallo, 1600 m, 1 Nov 1966, *A. Molina R. 18516* (NY, US). **COSTA RICA. Alajuela:** 4.5 km S of Zarcero, 1670 m, 15 Oct 1968, *R.W. Pohl & G. Davidse 11257* (US). **NICARAGUA. Matagalpa:** vic. El Porvenir, 4 km E of Santa María de

Ostuma, 30 Oct 1968, *A. Molina R.* 22890 (NY). **JAMAICA.** Cinchona, 8 Feb 1903, *L.M. Underwood* 1195 (NY). **GUADELOUPE.** Environs de Bagatelle, 24 Feb 1892, *Père A. Duss* 2712 (NY, US). **VENEZUELA.** **Portuguesa:** Mpio. Guanare. Caserío "La Montaña" a 4 km NW de Córdoba (approx. 10°24'N, 69°52'W), 1000 m, 11 Dec 1986, *G. Aymard* 5109 (PORT). Carretera Chabasquén a Córdoba (9°25'N, 69°55'W), 1200–1500 m, 19 Sep 1990, *G. Aymard et al.* 8845 (MO, PORT). **Trujillo:** Mpio. Boconó. Parque Nacional Guaramacal, bosque a los alrededores de la Laguna de Aguas Negras, cerca de Batatal (9°18,382N, 70°10,515W), 1900 m, 23 Sep 2000, *M. Niño et al.* 1351 (PORT, US).

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